Technical Specifications

Samsung SSD 840 Series		
Usage Application(s)	Client PCs*	
Capacity	120GB, 250GB, 500GB	
Dimensions (L x W x H)	100 x 69.85 x 6.8 (mm)	
Interface	SATA 6Gb/s (Compatible with SATA 3Gb/s and SATA 1.5Gb/s)	
Form Factor	2.5-inch	
NAND Flash Memory	2x nm Samsung Toggle DDR 2.0 NAND Flash Memory (400Mbps)	
DRAM Cache Memory	256MB (120GB model) or 512MB(250GB & 500GB models) LPDDR2	
Performance**	4KB Random Read (QD32):	Max. 98,000 IOPS (500GB)
		Max. 96,000 IOPS (250GB)
		Max. 86,000 IOPS (120GB)
	4KB Random Write (QD32):	Max. 70,000 IOPS (500GB)
		Max. 62,000 IOPS (250GB)
		Max. 32,000 IOPS (120GB)
	4KB Random Read (QD1):	Max. 7,900 (120GB/250GB/500GB)
	4KB Random Write (QD1):	Max. 29,000 (120GB/250GB/500GB)
	Sequential Read:	Max. 540 MB/s (250GB/500GB)
		Max. 530 MB/s (120GB)
	Sequential Write:	Max. 330 MB/s (500GB)
		Max. 250 MB/s (250GB)
		Max. 130 MB/s (120GB)
TRIM Support	Yes (Requires OS Support)	
Garbage Collection	Yes	
S.M.A.R.T	Yes	
Encryption	AES 256-bit Full Disk Encryption (FDE)	
Weight	Max. 54g (120GB/250GB/500GB)	
Reliability	MTBF: 1.5 million hours	
Power Consumption	Average : 0.071W *** (Typical)	Idle : 0.046W (Typical, DIPM ON), 0.279W (Typical, DIPM OFF)
Temperature	Operating:	0°C to 70°C
	Non-Operating:	-55°C to 95°C
Humidity	5% to 95%, non-condensing	
Vibration	Operating:	Random: 2.17Grms (7~800Hz)
	Non-Operating:	Random: 3.08Grms (7~800Hz)
Shock	1500G & 0.5ms (Half sine)	
Warranty	3 Years Limited	

System Configuration : Intel Core i7-3770 @3.4GHz, 4GB DDR3 (2GBx2) 1333Mbps; Asus motherboard with Intel 7 Series Z77 Chipset; Windows 7 Ultimate x64 SP1; IRST 11.2, MS performance guide pre-condition.
* 840 Series is not validated for date center usage.
** Sequential performance measurements based on CrystalDiskMark v.3.0.1. Random performance measurements based on Iometer 2010. Performance may vary based on SSD's firmware version, system hardware and configuration.
*** Power consumption measured with MobileMark 2007 in Windows 7. Values calculated using laptop computer and represent system-level power consumption.

Product Lineup

Density	Model Name	Box Contents	Model Code
120 GB	MZ-7TD120	Drive only	MZ-7TD120BW
		Installation Kit	MZ-7TD120KW
250 GB	MZ-7TD250	Drive only	MZ-7TD250BW
		Installation Kit	MZ-7TD250KW
500 GB	MZ-7TD500	Drive only	MZ-7TD500BW
		Installation Kit	MZ-7TD500KW

Package-Set

Installation Kit

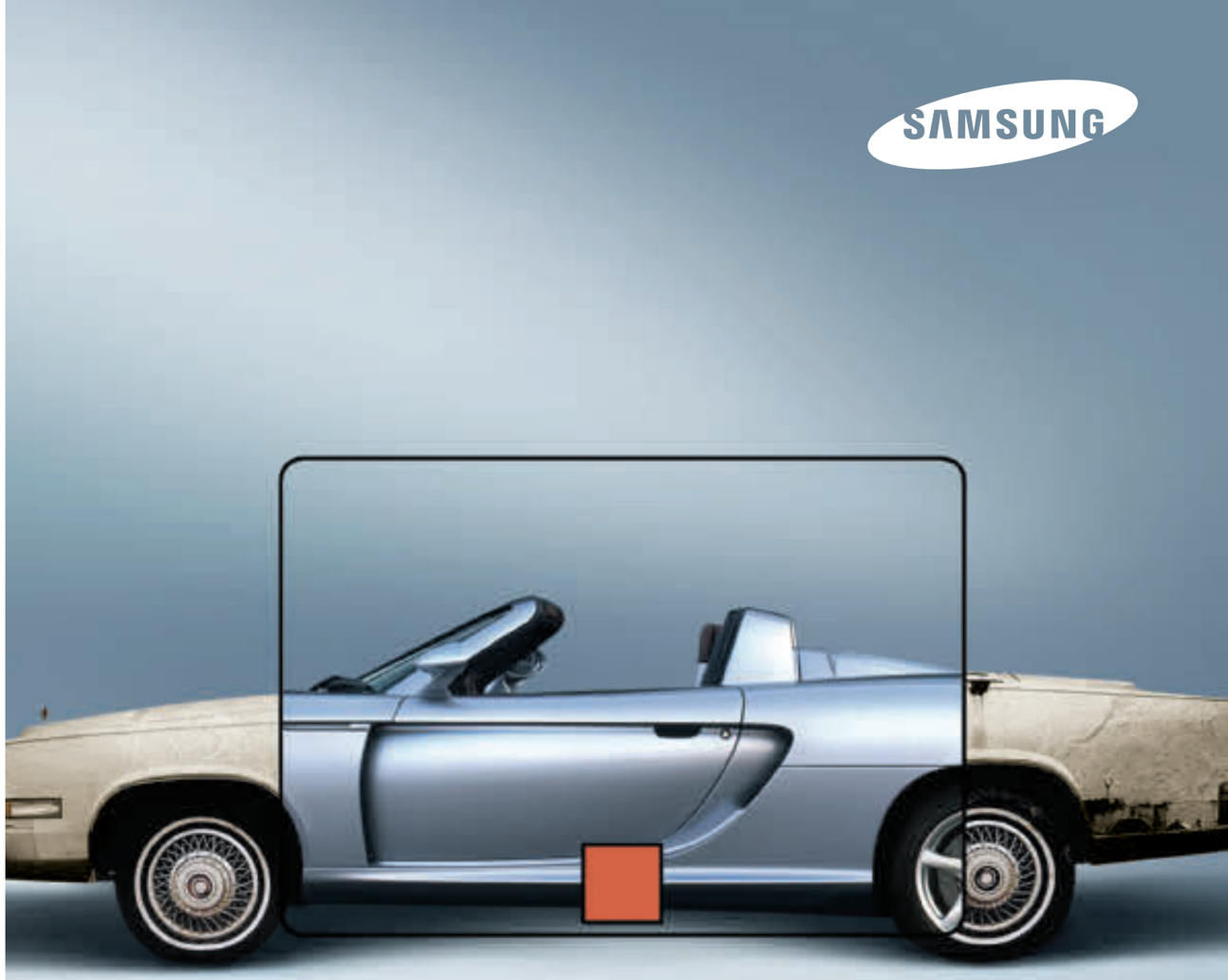
Drive only

Contents

Contents	Drive Only	Installation Kit
3.5" bracket with screws	N/A	√
SATA data cable	N/A	√
Mounting spacer	N/A	√
USB to SATA adapter cable	N/A	√
SSD Installation Guide (Printed)	√	√
Samsung software & manual CD	√	√

For more information, please visit **www.samsung.com/ssd.**
To download the latest software & manuals, please visit **www.samsung.com/samsungssd**

Features and specifications are subject to change without prior notification



Samsung SSD 840.
Your PC made new again.

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Samsung SSD 840

The Samsung SSD 840 is
the Single Best Upgrade for your PC

The easiest and most economical way to breathe new life into an existing system is to upgrade to an SSD. When boot-up speeds and application loads are slow, people become frustrated with their PCs' performance. Today, most PC performance woes are the result of slow read and write speeds on behalf of the main storage device rather than a lack of CPU performance. Thus, upgrading to a Samsung SSD 840 can breathe new life into your system by enhancing boot-up speed, application loading, and multi-tasking performance.

Simple, 3-Step Upgrade Solution

Don't waste your time & money by changing PCs. With its simple upgrade solution, Samsung's 840 is the single best upgrade for your PC and will deliver a whole new PC experience. There is nothing to fear, because a simple, 3-step process will easily migrate all of your existing data. The much-improved Magician software makes it convenient to maintain your SSD at its best condition. And Samsung's SSD 840 is available with a full range of installation accessories for both desktops and laptops.

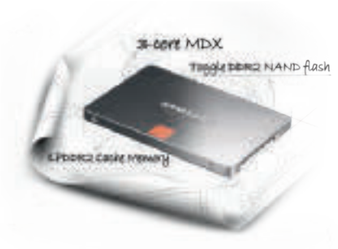
* Installation accessories are offered only in kit models.
** Samsung Data Migration S/W will be available on www.samsung.com/samsungssd.

SSDs save time, letting you do more of what you love

With the Samsung 840, photo editing programs load twice as quickly and video clips render 30% faster than with an HDD. An 840 Series SSD helps you get work done and out to family and friends in no time, leaving extra time to do more of what you love. Spend less time in front of the computer and more time making memories.

A True End-to-End, Integrated Solution

Samsung SSDs are designed completely in-house. To arrive at the perfect solution, Samsung builds all of the main SSD components itself. The result is enhanced performance with Toggle DDR2 NAND flash, lower power consumption with LPDDR2 cache memory, and better energy efficiency with the 3-core MDX controller.



Ultra Low Power Consumption for Longer Battery Life

Samsung has made major leaps forward in power efficiency with the 840 Series. It boasts the lowest idle power consumption of any SSD*, an extremely important achievement considering that SSDs spend a vast majority of their time sitting idle (a positive side-effect of their extremely fast processing speeds). In fact, Samsung's new MDX controller consumes only 40mwatt of power during idle mode - half that of its predecessor and up to 97% less than other SSD controllers. Further improvements come from the use of LPDDR2 cache memory, which offers higher performance while consuming 30% less power when active and 93% less power when idle than regular DDR2 or DDR3 memory. All of this results in an improvement of up to 30 minutes in battery life over the 830 Series, letting you get more out of your mobile experience.

*MobileMark2007 CPU: Intel core-i5-2410M CPU@2.3GHz / Chipset: Intel QM67 PCH (Integrated Intel GFX)
Memory: 4GB 1067HMHz DDR3

	MCX (DDR2)	MDX (LPDDR2)
Power use	1.8V	1.2V
IDD6 (Self refresh power)	14.4mW	1mW

Keep your data safe with Self-Encrypting Drive(SED) Technology

Simply enable an HDD password via your computer's BIOS, and Samsung's SSD 840 applies data encryption automatically. You can re-purpose your drive or dispose of your data simply by running a Secure Erase through Samsung's Magician software.

Samsung SSD 840 Media Review

"Samsung's 840 and 840 PRO drives are among the most power efficient drives we've seen to date, which will make them excellent additions for notebook/laptop users… The Samsung Data Migration utility is probably the easiest software I've worked with and I'd like to give Samsung a big thumbs up in this regard."
-Custom PC Review-

"Performance of the 840 is excellent with each benchmark seemingly supporting and building on the last."
-The SSD Review-

"The 840 exceeded all our expectations. It's faster, overall, than most of the previous generation MLC NAND based SSDs we have tested, which says a lot about Samsung's skill when it comes to designing a controller and firmware."
-AnandTech-